UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

UNITED STATES OF AMERICA, Plaintiff, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, Intervening Plaintiff, v. REFINED METALS CORPORATION, Defendant.	CIVIL ACTION NO. IP902077C HONORABLE JUDGE SARAH E. BARKER

CONSENT DECREE

EXHIBIT C: Scope of Work for a Corrective Measures Study

EXHIBIT C

SCOPE OF WORK FOR A CORRECTIVE MEASURES STUDY
AT REFINED METALS CORPORATION, INDIANAPOLIS, INDIANA

PURPOSE

The purpose of the Corrective Measures Study (CMS) is to develop and evaluate the corrective action alternatives and to recommend the corrective measures to be taken at Refined Metals Corporation Facility at Indianapolis, Indiana. Defendant shall furnish the personnel, materials, and services necessary to prepare the corrective measures study, except as otherwise specified.

SCOPE

The Defendant shall prepare a Corrective Measures Study Work Plan which consists of five tasks:

Task VII: Identification and Development of the Corrective Measure Alternatives

- A. Description of Current Situation
- B. Establishment of Corrective Action Objectives
- C. Screening of Corrective Measure Technologies
- D. Identification of the Corrective Measure Alternatives

Task VIII: Necessary Laboratory and Bench-Scale Studies

Task IX: Evaluation of the Corrective Measures Alternatives

- A. Technical/Environmental/Human Health/Institutional
- B. Cost Estimates

Task X: Justification and Recommendation of the Corrective Measures

- A. Technical
- B. Environmental
- C. Human Health

Task XI: Reports

- A. Progress
- B. Draft
- C. Final

TASK VII: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE MEASURE ALTERNATIVE or ALTERNATIVES

Based upon the results of the RCRA Facility Investigation and consideration of the identified Preliminary Corrective Measure Technologies (Task II), Defendant shall identify, screen, and develop the alternatives for removal, containment, treatment, and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

Defendant shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. Defendant shall provide an update to the information presented in Task I of the RFI to the Agency regarding previous response activities and any interim measures which have been implemented at the facility. Defendant shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

Defendant, in conjunction with the U.S. EPA, shall establish site specific objectives for the corrective action needed to protect human health and the environment. These objectives shall be based on public health and environmental criteria, information gathered during the RCRA Facility Investigation, U.S. EPA guidance, and the requirements of any applicable Federal statutes. All corrective actions concerning groundwater releases must be consistent with, and pursuant to 40 CFR 264.100 and 264.92.

C. Screening of Corrective Measure Technologies

Defendant shall review the results of the RCRA Facility Investigation and reassess the technologies specified in Task II to identify and additional technologies which are applicable at the facility. Defendant shall screen the preliminary corrective measure technologies identified in Task II of the RCRA Facility Investigation and any supplemental technologies to eliminate those that may not prove feasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process should focus on eliminating those technologies which have several limitations for a given set of waste and site specific condition. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration;

2. Waste Characteristics

Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening

process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site); and

3. Technology Limitations

During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternatives

Defendant shall develop the corrective measure alternatives based on the corrective action objectives and analysis of Preliminary Corrective Measure Technologies, as presented in Task II of the RCRA Facility Investigation, and as supplemented following the preparation of the RFI Report. Defendant shall rely on sound engineering practices to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective measure alternatives. The alternatives developed should represent a workable number of options that appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. Defendant shall document the reasons for excluding technologies identified in Task II, as supplemented in the development of the alternatives.

TASK VIII: LABORATORY AND BENCH-SCALE STUDIES

The Defendant shall conduct laboratory and/or bench-scale studies to determine the applicability of corrective measure technologies to facility conditions. Defendant shall analyze the technologies based on literature review, vendor contacts, and past experience to determine the testing requirements.

Defendant shall develop a testing plan identifying the types and goals of the studies, the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, Defendant shall evaluate the testing results to assess the technologies with respect to the site-specific questions identified in the test plan.

Defendant shall prepare a report summarizing the testing program and its results, both positive and negative.

TASK IX: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVES

Defendant shall describe each corrective measure alternative that passes through the Initial Screening in Task VII and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health, and institutional concerns. Defendant shall also develop cost estimates for each corrective measure.

A. Technical/Environmental/Human Health/Institutional

Defendant shall provide a description of each corrective measure alternative which includes, but is not limited to the following: preliminary process flow sheets; preliminary sizing and types of construction for buildings and structures; and rough quantities of utilities required. Defendant shall evaluate each alternative in the four following areas:

1. Technical

Defendant shall evaluate each corrective measure alternative based on performance, reliability, implementability, and safety.

a. Defendant shall evaluate each corrective measure alternative based on the effectiveness and useful life of the corrective measure:

i) Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristic which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

ii) Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. Defendant shall provide information on the reliability of each corrective measure including its operation and maintenance requirements and demonstrated reliability:

i) Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and

ii) Demonstrated and expected reliability is a way of measuring the risk and effect of failure. Defendant shall evaluate whether the technologies have been used effectively under

analogous conditions; whether the combinations of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. Defendant shall describe the implementability of each corrective measure, including the relative ease of installation (constructability) and the time required to achieve a given level of response:

i) Constructability is determined by conditions both internal and external to the facility conditions, and includes such items as location of underground utilities, depth to water table, homogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). Defendant shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

ii) Time has two components that shall be addressed: the time it takes to implement a corrective measure; and the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. Defendant shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as threats to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

Defendant shall assess each alternative to determine its short and long-term beneficial and adverse effects on the environment. Each alternative will be evaluated for its impact on habitat types and plant and animal receptors located in, adjacent to, or affected by the facility. Receptors impacted should include those occurring at the individual level (e.g., mortality, growth and reproductive impairments) and those occurring at higher levels of biological organization (i.e., at population, community, and ecosystem levels). The assessment should include proposed measures for mitigating adverse impacts.

3. Human Health

Defendant shall assess each alternative in terms of the extent to which it mitigates short and long-term potential exposure to any residual contamination and how it protects human health both during and after implementation of the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and the potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to U.S. EPA.

4. Institutional

Defendant shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and local environmental and public health standards, regulation, guidance, advisories, ordinances, or community relation on the design, operation, and timing of each alternative.

B. Cost Estimate

Defendant shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

   a. Direct capital costs include:

      i) Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation); and equipment required to install the corrective measure;

      ii) Equipment costs: Cost of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

      iii) Land and site-development costs: Expenses associated with purchase of land and development of existing property; and

   b. Indirect capital costs include:

      i) Engineering expenses: Costs of administration, design, construction supervision, drafting, and testing of corrective measure alternatives;

      ii) Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

      iii) Startup and shakedown costs: Costs incurred during corrective measure startup; and

      iv) Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. Defendant consider the following operation and maintenance cost components:

   a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

   b. Maintenance materials and labor costs: Cost for labor, parts, and other resources required for routine maintenance of facilities and equipment;

c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

d. Purchased services: Sampling cost, laboratory fees, and professional fees for which the need can be predicted;

e. Disposal and treatment costs: Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues, generated during operations;

f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or right-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

h. Maintenance reserve and contingency funds: Annual payments into escrow to cover: (1) costs of anticipated replacement or rebuilding of equipment; and (2) any large unanticipated operation and maintenance costs; and

i. Other costs: Items that do not fit any of the above categories.

TASK X: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURES

Defendant shall justify and recommend corrective measure alternatives using technical, human health, and environmental criteria. The recommendation shall include summary tables which allow the alternatives to be easily understood. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The U.S. EPA will select the corrective measure alternatives to be implemented based on the results of Tasks IX and X. At a minimum, the following criteria will be used to justify the final corrective measures.

A. Technical

1. Performance - corrective measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be preferred;

2. Reliability - corrective measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be preferred;

3. Implementability - corrective measures which can be constructed and operated to reduce levels of contamination that attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measures which pose the least threat to the safety of nearby residents and environment as well as workers during implementation will be preferred.

B. Human Health

The corrective measures must comply with existing U.S. EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time will be preferred.

C. Environmental

The corrective measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be preferred.

TASK XI: REPORTS

Defendant shall prepare a Corrective Measures Study (CMS) Report presenting the results of Tasks VII through X and recommending corrective measure alternatives. Three (3) copies of the draft report shall be provided by Defendant.

A. Progress

Defendant shall at a minimum provide U.S. EPA with signed, monthly progress reports containing:

1. A description and estimate of the percentage of the CMS completed;
2. Summaries of all findings;
3. Summaries of all changes made in the CMS during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups, or State government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

B. Draft

The Report shall, at a minimum, include:

1. A description of the facility, including a site topographic map (which includes depiction of plant communities and fish and wildlife habitat types) and preliminary layouts;
2. A summary of the corrective measures:
    a. Description of the corrective measures and rationale for selection;
    b. Performance expectations;
    c. Preliminary design criteria and rationale;
    d. General operation and maintenance requirements; and
    e. Long-term monitoring requirements to assess attainment of goals relative to groundwater, surface waters and ecological integrity (ecological monitoring, where applicable, could include assessment of wetland vegetation, soils and hydrology; biotoxicity of surface waters, soils and/or sediments; analysis of biological tissues; and assessment of stream fish and benthic macroinvertebrate communities);

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measures;

4. A summary of any necessary laboratory and bench-scale studies;

5. Design and Implementation Precaution:

   a. Special technical problems;

   b. Additional engineering data required;

   c. Permits and regulatory requirements;

   d. Access, easements, right-of-way;

   e. Health and safety requirements; and

   f. Community relations activities; and

6. Cost Estimates and Schedules:

   a. Capital cost estimate;

   b. Operation and maintenance cost estimate; and

   c. Project schedule (design, construction, operation).

C. Final

Defendant shall finalize the Corrective Measures Study Report, incorporating comments received from the public, and U.S. EPA on the Draft Final Corrective Measures Study Report.

Facility Submission Summary

A summary of the information requirements contained in the Corrective Measure Study Scope of Work is presented below:

Facility Submission	*Due Date*
CMS Workplan	60 days after U.S. EPA approval of Final RFI Report
Draft CMS Report (Tasks VII, VIII, IX, and X)	90 days after U.S. EPA approval of Final RFI Report
Final CMS Report (Tasks VII, VIII, IX, and X)	45 days after Public and U.S. EPA - Comments on the Draft Final CMS
Progress Reports on Tasks VII Through X	Monthly

INTERIM MEASURES
APPENDICES

APPENDIX A. INTERIM MEASURES WORKPLAN

1. Interim Measures Objectives
2. Health and Safety Plan
3. Community Relations Plan

APPENDIX B. INTERIM MEASURES INVESTIGATION PROGRAM

1. Data Collection Quality Assurance
2. Data Management Plan

APPENDIX C. INTERIM MEASURES DESIGN PROGRAM

1. Design Plans and Specifications
2. Operations and Maintenance Plan
3. Project Schedule
4. Final Design Documents

APPENDIX D. INTERIM MEASURES CONSTRUCTION QUALITY ASSURANCE PLAN

1. Construction Quality Assurance Objectives
2. Inspection Activities
3. Sampling Requirements
4. Documentation

APPENDIX E. REPORTS

1. Progress
2. Interim Measures Workplan
3. Final Design Documents
4. Draft Interim Measures Report
5. Final Interim Measures Report

APPENDIX A

INTERIM MEASURES WORKPLAN

The Defendant shall prepare an Interim Measures Workplan. The Workplan shall include the development of several plans which shall be prepared concurrently.

A. Interim Measures Objectives

The Workplan shall specify the objectives of the interim measures, demonstrate how the interim measures will abate releases and threatened releases, and to the extent possible, be consistent and integrated with any long-term solution at the facility. The Interim Measures Workplan will include a discussion of the technical approach, engineering design, engineering plans, schedules, budget, and personnel. The Workplan will also include a description of qualifications of personnel performing or directing the interim measures, including contractor personnel. This plan shall also document the overall management approach to the interim measures.

B. Health and Safety Plan

Defendant shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:

   a. Facility description, including availability of resources such as roads, water supplies, electricity and telephone services;

   b. Describe the known hazards and evaluate the risks associated with the incident and with each activity conducted;

   c. List key personnel and alternates responsible for site safety, response operations, and for protection of human health;

   d. Describe levels of protection to be worn by personnel;

   e. Delineate work area;

   f. Establish procedures to control site access;

   g. Describe decontamination procedures for personnel and equipment;

   h. Establish site emergency procedures;

   i. Address emergency medical care for injuries and toxicological problems;

   j. Describe requirements for an environmental surveillance program;

   k. Specify any routine and special training required for responders;

   l. Establish procedures for protecting workers from weather-related problems; and

   m. Establish emergency procedures.

2. The Facility Health and Safety Plan shall be consistent with:

   a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);

b. U.S. EPA Order 1440.1 - Respiratory Protection;

c. U.S. EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;

d. Facility Contingency Plan;

e. U.S. EPA Standard Operating Safety Guide (1984);

f. OSHA regulations particularly in 29 CFR 1910 and 1926;

g. State and local regulations; and

h. Other U.S. EPA guidance as provided.

3. The Health and Safety Plan shall be revised to address the activities to be performed at the facility to implement the interim measures.

C. Community Relations Plan

Defendant shall prepare a plan for the dissemination of information to the public regarding interim measure activities and results. These activities shall include the preparation and distribution of fact sheets and participation in public meetings.

APPENDIX B

INTERIM MEASURES INVESTIGATION PROGRAM

A. Data Collection Quality Assurance Plan

Defendant shall prepare a plan to document all monitoring procedures, sampling, field measurements and sample analysis performed during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

The strategy section of the Data Collection Quality Assurance Plan shall include but not be limited to the following:

a. A description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

b. A description of methods and procedures to be used to assess the precision, accuracy, and completeness of the measurement data;

c. A description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition. Examples of factors which shall be considered and discussed include:

2. Sampling

The Sampling section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate sampling locations, depths, etc.;

b. Providing a statistically sufficient number of sampling sites;

c. Measuring all necessary ancillary data;

d. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.);

e. Determining which parameters are to be measured and where;

f. Selecting the frequency of sampling and length of sampling period;

g. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected;

h. Documenting field sampling operations and procedures, including;

i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, and adsorbing reagents);

ii) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

iii) Documentation of specific sample preservation methods;

iv) Calibration of field devices;

v) Collection of replicate samples;

vi) Submission of field-biased blanks, where appropriate;

vii) Potential interferences present at the facility;

viii) Construction materials and techniques, associated with monitoring wells and piezometers;

ix) Field equipment and sample containers listing;

x) Sampling order; and

xi) Decontamination procedures.

i. Selecting appropriate sample containers;

j. Sample preservation; and

k. Chain-of-custody, including:

i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

a. Chain-of-custody procedures, including:

i) Identification of a responsible party to act as sample custodian at the laboratory, who is authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

ii) Provisions for a laboratory samples custody log consisting of serially numbered standard lab-tracking report sheets; and

iii) Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage;

c. Sample preparation methods;

d. Analytical procedures, including;

i) Scope and application of the procedure;

ii) Sample matrix;

iii) Potential interferences;

iv) Precision and accuracy of the methodology; and

v) Method detection limits.

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and system audits and frequency, including:

i) Method blank(s);

ii) Laboratory control sample(s);

iii) Calibration check sample(s);

iv) Replicate sample(s);

v) Matrix-spiked sample(s);

vi) "Blind" quality control sample(s);

vii) Control charts;

viii) Surrogate samples;

ix) Zero and span gases; and;

x) Reagent quality control checks.

A performance audit may be conducted by U.S. EPA on the laboratories selected by the Defendant.

h. Preventative maintenance procedures and schedules;

i. Corrective action (for laboratory problems); and

j. Turnaround time.

B. Data Management Plan

Defendant shall develop and initiate a Data Management Plan to document and track investigation data and result. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

All groundwater data shall be submitted in a computer accessible format, i.e., diskette. The format used shall be compatible with the U.S. EPA, Region V groundwater database known as the Ground Water Information Tracking System (GRITS), Version 4.0.

1. Data Record

The Data record shall include the following:

a. Unique sample or field measurement codes;

b. Sampling or field measurement location and sample or measurement types;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID numbers;

e. Properties or components measured; and

f. Result of analysis (e.g., concentration)..

2. Tabular Displays

The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for numerical analysis;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleths plots, cross-sectional plots or transects, three dimensional graphs, etc.):

a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and areas where more data are required;

c. Display levels of contamination at each sampling location;

d. Display geographical extent of contamination;

e. Display contamination, levels, averages, and maxima;

f. Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and

g. Indicate features affecting intramedia transport showing potential receptors.

APPENDIX C

INTERIM MEASURES DESIGN PROGRAM

A. Design Plans and Specifications

The Defendant shall develop clear and comprehensive design plans and specifications which include but are not limited to the following:

1. Discussion of the design strategy and the design basis, including:
   a. Compliance with all applicable or relevant environmental and public health standards; and
   b. Minimization of environmental and public impacts.
2. Discussion of the technical factors of importance including:
   a. Use of currently accepted environmental control measures and technology;
   b. The constructibility of the design; and
   c. Use of currently acceptable construction practices and techniques.
3. Description of assumptions made and detailed justification of these assumptions;
4. Discussion of the possible sources of error and references to possible operation and maintenance problems;
5. Detailed drawings of the proposed design including:
   a. Qualitative flow sheets;
   b. Quantitative flow sheets;
   c. Facility layout; and
   d. Utility locations.
6. Tables listing materials, equipment and specifications;
7. Tables giving material balances;
8. Appendices including:
   a. Sample calculations (one example presented and explained clearly for significant or unique design calculations);
   b. Derivation of equations essential to understanding the report; and
   c. Results of laboratory or field tests.

General correlations between drawings and technical specifications, is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, the Defendant shall coordinate and cross-check the specifications and drawings and complete the proofing of the edited specifications and required cross-checking of all drawings and specifications.

B. Operation and Maintenance Plan

The Defendant shall prepare and Operation and Maintenance Plan to cover both implementation and long-term maintenance of the interim measure. The plan shall be composed of the following elements:

1. Equipment start-up and operator training

   The Defendant shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operation of the treatment systems; and training covering appropriate operational procedures once the startup has been successfully accomplished.

2. Description of normal operation and maintenance (O&M)

   a. Description of tasks for operation;

   b. Description of tasks for maintenance;

   c. Description of prescribed treatment or operation conditions;

   d. Schedule showing frequency of each O&M task; and

   e. Common and/or anticipated remedies.

3. Description of routine monitoring and laboratory testing

   a. Description of monitoring tasks;

   b. Description of required laboratory tests and their interpretation;

   c. Required QA/QC; and

   d. Schedule of monitoring frequency and date, if appropriate, when monitoring may cease.

4. Description of equipment

   a. Equipment identification;

   b. Installation of monitoring components;

   c. Maintenance of site equipment; and

   d. Replacement schedule for equipment and installed components.

5. Records and reporting mechanisms required

   a. Daily operating logs;

   b. Laboratory records;

   c. Mechanism for reporting emergencies;

   d. Personnel and maintenance records; and

   e. Monthly/annual reports to Federal/State agencies.

The Operation and Maintenance Plan shall be submitted with the Final Design Documents.

C. Project Schedule

The Defendant shall develop a detailed Project Schedule for construction and implementation of the interim measure(s) which identifies timing for initiation and completion of all critical path tasks. Defendant shall specifically identify dates for completion of the project and major interim milestones which are enforceable terms of this order. A Project Schedule shall be submitted simultaneously with the Final Design Documents.

D. Final Design Documents

The Final Design Documents shall consist of the Final Design Plans and Specification (100%) complete, the final Draft Operation and Maintenance Plan, and Project Schedule. The Defendant shall submit the final documents 100% complete with reproducible drawings and specifications. The quality of the design documents should be such that the Defendant would be able to include them in a bid package and invite contractors to submit bids for the construction project.

APPENDIX D

INTERIM MEASURE CONSTRUCTION QUALITY ASSURANCE PLAN

A. Construction Quality Assurance Objectives

In the CQA plan, the Defendant shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to the following: responsibility and authority; personnel qualifications; inspection activities, sampling requirements; and documentation. The responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the interim measure should be described fully in the CQA plan. The Defendant must identify a CQA officer and the necessary supporting inspection staff.

B. Inspection Activities

The observations and tests that will be used to monitor the construction and/or installation of the components of the interim measure(s) shall be summarized in the CQA plan. The plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with all environmental requirements and include, but not be limited to air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection should also ensure compliance with all health and safety procedures. In addition to oversight inspections, the Defendant shall conduct the following activities:

1. Preconstruction inspection and meeting

The Defendant shall conduct a preconstruction inspection and meeting to:

a. Review methods for documenting and reporting inspection data;

b. Review methods for distributing and storing documents and reports;

c. Review work area security and protocol;

d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and

e. Conduct a site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by a designated person and minutes should be transmitted to all parties.

2. Prefinal inspection

Upon preliminary project completion, Defendant shall notify U.S. EPA for the purposes of conducting a prefinal inspection. The prefinal inspection will consist of a walk-through inspection of the entire project site. The inspection is to determine whether the project is complete and consistent with the contract documents and the U.S. EPA approved interim measure. Any outstanding construction items discovered during the inspection will be identified and noted. Additionally, treatment equipment will be operationally tested by the

Defendant to certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed. The prefinal inspection report should outline the outstanding construction items, actions required to resolve items, completion date for these items, and date for final inspection.

3. Final Inspection

Upon completion of any outstanding construction items, the Defendant shall notify U.S. EPA for the purpose of conducting a final inspection. The final inspection will consist of a walk-through inspection of the project site. The prefinal inspection will be used as a checklist and focusing on the outstanding items that have not been resolved.

4. Sampling and Testing Requirements

The sampling and testing activities, sample size, sample and test locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems should be presented in the CQA.

C. Documentation

Reporting requirements for CQA activities shall be described in detail the CQA plan. This shall include such items as daily summary reports, inspection data sheets, problem identification and interim measures reports, design acceptance reports and final documentation. Provisions for the final storage of all records shall be presented in the CQA plan.

APPENDIX E

REPORTS

A. Progress

The Defendant shall at a minimum provide the U.S. EPA with signed, monthly progress reports containing:

1. A description and estimate of the percentage of the interim measures completed;

2. Summaries of all findings;

3. Summaries of all changes made in the interim measures during the reporting period;

4. Summaries of all contacts with representatives of the local community, public interest groups, or State government during the reporting period;

5. Summaries of all problems of potential problems encountered during the reporting period;.

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

B. Interim Measures Workplan

The Defendant shall submit an Interim Measures Workplan as described in Appendix A, B, C, and D.

C. Final Design Documents

The Defendant shall submit the Final Design Documents as described in Appendix C.

D. Draft Interim Measures Report

At the "completion" of the construction of the project (except for long-term operations, maintenance and monitoring), the Defendant shall submit an Interim Measures and Implementation Report to the Agency. The Report shall document that the project is consistent with the design specifications, and that the interim measures are performing adequately. The Report shall include, but not be limited to the following elements:

1. Synopsis of the interim measures and certification of the design and construction;

2. Explanation of any modifications to the plan and why these were necessary for the project;

3. Listing of criteria, established before the interim measures were initiated, for judging the functioning of the interim measures and also explaining any modification to these criteria;

4. Results of facility monitoring, indicating that interim measures will meet or exceed the performance criteria; and

5. Explanation of the operation and maintenance (including monitoring) to be undertaken at the facility.

This report shall include of the inspection summary reports, inspection data sheets, problem identification and corrective measure reports, block evaluation reports, photographic reporting data sheets, design engineers' acceptance reports, deviations from design and material specifications (with justifying documentation) and as-built drawings.

E. Final Interim Measures Report

The Defendant shall finalize the Interim Measures Work Plan and the Interim Measures Implementation Report incorporating comments received on draft submissions.

Facility Submission Summary

A summary of the information reporting requirements contained in the Interim measures Scope of Work is present below:

FACILITY SUBMISSIONS	*DUE DATE**
INTERIM MEASURES WORKPLAN -Interim Measures Objectives -Health and Safety Plan -Community Relations Plan -Data Collection QA Plan -Data Management Plan -Construction QA Plan	30 days
Final Design Documents -Design Plans and Specs -O&M Plan -Project Schedule	30 days
Draft Interim Measures Report	Upon completion of construction
Final Interim Measures Report	15 days after receipt of U.S. EPA comments on Draft Interim Measures Report
Progress Reports	Monthly

*All dates are calculated from the effective date of this order unless otherwise specified.

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

UNITED STATES OF AMERICA, Plaintiff, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, Intervening Plaintiff, v. REFINED METALS CORPORATION, Defendant.	CIVIL ACTION NO. IP902077C HONORABLE JUDGE SARAH E. BARKER

CONSENT DECREE

EXHIBIT D: Scope of Work for a Corrective Measures Implementation

EXHIBIT D

SCOPE OF WORK FOR THE CORRECTIVE MEASURE(S) IMPLEMENTATION AT REFINED METALS CORPORATION, INDIANAPOLIS, INDIANA

PURPOSE

The purpose of the Corrective Measures Implementation (CMI) program is to design, construct, operate, maintain and monitor the performance of the corrective measure or measures selected by U.S. EPA. The Defendant will furnish all personnel, materials and services necessary for the implementation of the corrective measures.

SCOPE

The CMI program shall consist of four tasks:

Task XII: Corrective Measure Implementation Program Plan

- A. Program Management Plan
- B. Community Relations Plan

Task XIII: Corrective Measure Design

- A. Design Plans and Specifications
- B. Operation and Maintenance Plan
- C. Cost Estimate
- D. Project Schedule
- E. Construction Quality Assurance Objectives
- F. Health and Safety Plan
- G. Design Phases

Task XIV: Corrective Measures Construction

- A. Responsibility and Authority
- B. Construction Quality Assurance Personnel Qualifications
- C. Inspection Activities
- D. Sampling Requirements
- E. Documentation

Task XV: Reports

- A. Progress
- B. Draft
- C. Final

Task XII: CMI Program Plan

The Respondents shall prepare and submit a CMI Program Plan. This program will include the development and implementation of several plans, which shall be prepared concurrently. The Program Plan includes the following:

A. Program Management Plan

The Defendant shall prepare a Program Management Plan which will document the overall management strategy for performing the design, construction, operation, maintenance and monitoring of Corrective Measures for U.S. EPA review and approval. The plan shall document the responsibility and authority of all organizations and key personnel involved with the implementation. The Program Management Plan shall also include a description of qualifications of key personnel directing the Corrective Measure Design and Implementation, including contractor personnel. The Defendant shall submit a final CMI Program Plan incorporating U.S. EPA's comments on the Draft CMI Program Plan according to the schedule identified in the Submission Summary.

B. Community Relations Plan

The Defendant shall revise the Community Relations Plan to include any changes in the level of concern of information needs to the community during design and construction activities.

1. Specific activities which must be conducted during the design stage are the following:

   a. Rives the facility Community Relations Plan to reflect knowledge of citizen concerns and involvement at this stage of the process; and

   b. Prepare and distribute a public notice and an updated fact sheet at the completion of the engineering design.

2. Specific activities to be conducted during the construction stage could be the following: Depending on the citizen interest at the facility at this point in the corrective action process, community relations activities could range from group meetings to fact sheets on the technical issues.

TASK XIII: CORRECTIVE MEASURE DESIGN

The Defendant shall prepare final construction plans and specifications to implement the Corrective Measures at the facility which have been selected by U.S. EPA.

A. Design Plans and Specifications

The Defendant shall develop clear and comprehensive design plans and specifications which include but are not limited to the following:

1. Discussion of the design strategy and the design basis, including:

   a. Compliance with all applicable or relevant environmental and public health standards; and

   b. Minimization of environmental and public impacts.

2. Discussion of the technical factors of importance including:

   a. Use of currently accepted environmental control measures and technology;

   b. The constructability of the design; and

   c. Use of currently acceptable construction practices techniques.

3. Description of assumptions made and detailed justification of these assumptions;

4. Discussion of the possible sources of error and references to possible operation and maintenance problems;

5. Detailed drawings of the proposed design including:

   a. Qualitative flow sheets; and

   b. Quantitative flow sheets.

6. Tables listing equipment and specifications;

7. Tables giving material and energy balances;

8. Appendices including:

   a. Sample calculations (one example presented and explained clearly for significant or unique design calculations);

b. Derivation of equations essential to understanding of the report; and

c. Results of laboratory or field tests.

B. Operation and Maintenance Plan

The Defendant shall prepare an Operation and Maintenance Plan to cover both implementation and long term maintenance of the Corrective Measures. An initial Draft Operation and Maintenance Plan shall be submitted simultaneously with the Prefinal Design Document submission and the Final Operation and Maintenance Plan with the Final Design documents. The plan shall include the following elements:

1. Description of normal operation and maintenance (O&M):

a. Description of tasks for operation;

b. Description of tasks for maintenance;

c. Description of prescribed treatment or operation conditions; and

d. Schedule showing frequency of each O&M task.

2. Description of potential operating problems:

a. Description and analysis of potential operation problems;

b. Sources of information regarding problems; and

c. Common and/or anticipated remedies.

3. Description of routine monitoring and laboratory testing:

a. Description of monitoring tasks;

b. Description of required laboratory tasks and their interpretation;

c. Required data collection, Quality Assurance Project Plan (QAPP);

d. Schedule of monitoring frequency; and

e. Description of triggering mechanisms for ground water/surface water monitoring results.

4. Description of alternate O&M:

a. Should system fail, alternate procedures to prevent release or threatened releases of hazardous substances, pollutants or contaminants which may endanger public health and the environment or exceed cleanup standards; and

b. Analysis of vulnerability and additional resource requirements should a failure occur.

5. Corrective Steps:

a. Description of corrective steps to be implemented in the event or performance standards are not met; and

b. Schedule for implementing these corrective steps.

6. Safety Plan:

a. Description of precautions, of necessary equipment, etc., for site personnel; and

b. Safety tasks required in event of systems failure.

7. Description of equipment:

a. Equipment identification;

b. Installation of monitoring components;

c. Maintenance of site equipment; and

d. Replacement schedule for equipment and installed components.

8. Records and reporting mechanisms required:

a. Daily operating logs;

b. Laboratory records;

c. Records for operating costs;

d. Mechanism for reporting emergencies;

e. Personnel and maintenance records; and

f. Monthly/annual reports to State agencies.

C. Cost Estimate

The Defendant shall refine the cost estimate developed in the CMS to reflect the more detailed/accurate design plans

and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs. An Initial Cost Estimate shall be submitted simultaneously with the Prefinal Design submission and the Final Cost Estimate with the Final Design Document.

D. Project Schedule

The Defendant shall develop a project schedule for construction and implementation of the Corrective Measures which identifies timing for initiation and completion of all critical path tasks. Defendant shall specifically identify dates for completion of the project and major interim milestones. An initial project schedule shall be submitted simultaneously with the Prefinal Design Document submission and the Final Project Schedule with the Final Design Document.

E. Construction Quality Assurance Objectives

The Defendant shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements and documentation. Draft Construction Quality Assurance Objectives shall be submitted simultaneously with the Prefinal Design Submission and the Final Construction Quality Assurance Objectives shall be submitted following U.S. EPA approval of the Final Design Document.

F. Health and Safety Plan

The Defendant shall submit a Health and Safety Plan to address the activities to be performed at the facility to implement the Corrective Measures.

G. Design Phases

The Defendant shall meet regularly with U.S. EPA to discuss design issues. The design of the Corrective Measures shall include the phases outlined below.

1. Preliminary design

The Defendant shall submit the preliminary design when the design effort is approximately 30% complete according to the schedule in the Submission Summary. At this stage, the Defendant shall have field verified the existing conditions at the facility. The preliminary design shall reflect a level of effort such that the technical requirements of the project have been addressed and

outlined so that they may be reviewed to determine if the final design will provide an operable and usable Corrective Measure. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program.

The preliminary construction drawings by the Defendant shall reflect organization and clarity. The scope of the technical specifications shall be outlined in a manner reflecting the final specifications. The Defendant shall include with its preliminary submission, design calculations reflecting the same percentage of completion as the design they support. Predesign work, if required by U.S. EPA, shall be reported at this time.

2. Intermediate design

The intermediate design shall be submitted at 60% completion of the project. The intermediate design submittal should include the following sections:

a. Invitation to bid (without date);

b. Bid proposal forms (without units);

c. Subcontract forms;

d. Standard conditions; and

e. Preliminary technical specifications.

3. The detailed plans will have been started at this point. General correlation between drawings and technical specifications is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, the Defendant shall:

a. Coordinate and cross-check the specifications and drawings; and

b. Complete the proofing of the edited specifications and required cross-checking of all drawings and specifications.

4. The Defendant shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start up and operation of the treatment systems, and training covering

appropriate operational procedures once the startup has been successfully accomplished.

5. Prefinal Design

The Defendant shall submit the Prefinal Design according to the schedule in the Submission Summary. The submission shall be at 95% completion of design (i.e., prefinal). After approval of the prefinal submission, the Defendant shall execute the required revisions and submit the final design (100% completion) with reproducible drawings and specifications.

The prefinal design submittal shall consist of the Design Plans and specifications, Operation and Maintenance Plan, Capital and Operating and Maintenance Cost Estimate, Project Schedule, Construction Quality Assurance Objectives and Specifications for the Health and Safety Plan.

6. Final Design

The Defendant shall submit a Final Design according to the schedule in the Submission Summary. The Final Design consists of the Final Design Plans and Specifications (100% complete), the Defendant's Final Construction Cost Estimate, the Final Operation and Maintenance Plan, Construction Quality Assurance Objectives, Final Project Schedule and Final Health and Safety Plan Specifications. The quality of the design documents shall be such that they will be ready, as is, for bid advertisement.

7. Additional Studies

The U.S. EPA may require additional studies to supplement the available technical data. The Defendant shall furnish all equipment and personnel necessary to complete any additional work needed. Draft and final reports shall be prepared presenting all data obtained during the additional studies, summary of the results and conclusions.

Task XIV: CORRECTIVE MEASURE CONSTRUCTION

The Defendant shall finalize the Construction Quality Assurance Plan incorporating comments received on the draft Construction Quality Assurance Plan submitted with the Prefinal Design. Within _____ days of U.S. EPA approval of the final design, the Defendant shall implement a construction quality assurance (CQA) program to ensure, with a reasonable degree of certainty, that a completed Corrective Measure will meet or exceed all design criteria, plans and specifications. The CQA plan is a facility specific document which must be approved by U.S. EPA prior to the start of the construction. At a minimum, the CQA plan should include the elements which are summarized below. Within _____ days of U.S. EPA approval of the CQA Plan, the Defendant shall construct and implement the Corrective Measures in accordance with the approved design, schedule and CQA plan. Defendant shall also implement the elements of the approved operation and maintenance plan.

A. Responsibility and Authority

The Defendant shall describe fully in the CQA Plan the responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the corrective measure. The Defendant shall identify a CQA Plan. The Defendant shall also identify a CQA officer and the necessary supporting inspection staff.

B. Construction Quality Assurance Personnel Qualifications

The Defendant shall set forth the qualifications of the CQA Officer and supporting inspection personnel shall be presented in the CQA plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities.

C. Inspection Activities

The Defendant shall summarize in the CQA plan the observations and tests that will be used to monitor the construction and/or installation of the components of the Corrective Measures. The plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with environmental requirements and include, but not be limited to air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection shall also ensure compliance with all health and safety procedures. In addition to the oversight inspections, the Defendant shall conduct the following activities:

1. Preconstruction inspection and meeting

The Defendant shall conduct a preconstruction inspection and meeting to:

a. Review methods for documenting and reporting inspection data;

b. Review methods for distributing and storing documents and reports;

c. Review work area security and safety protocol;

d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and

e. Conduct a site walk-around to verify that the design criteria, plans and specifications are understood and to review material and equipment storage locations. The preconstruction inspection and meeting shall be documented by a designated person and minutes shall be transmitted to all parties.

2. Prefinal Inspection

Upon preliminary project completion, Defendant shall notify U.S. EPA for the purposes of conducting a prefinal inspection. The prefinal inspection shall consist of a walk-through inspection of the entire project site. The inspection is to determine whether the project is complete and consistent with the contract documents and the U.S. EPA approved Corrective Measure. Any outstanding construction items discovered during the inspection shall be identified and noted. Additionally, treatment equipment shall be operationally tested by Defendant. The Defendant shall certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed. The Defendant shall outline in the prefinal inspection report the outstanding construction items, actions required to resolve items, completion date for these items and date for final inspection.

3. Final Inspection

Upon completion of any outstanding construction items, the Defendant shall notify U.S. EPA for the purposes of conducting a final inspection. The final inspection shall consist of a walk-through inspection of the project site. The prefinal inspection report will be used as a checklist with the final inspection focusing on the outstanding

construction items identified in the prefinal inspection. Confirmation shall be made that outstanding items have been resolved.

D. Sampling Requirements

The Defendant shall present in the CQA plan the sampling activities, sample size, sample locations, frequency of testing, criteria for acceptance and rejection and plans for correcting problems as addressed in the project specifications.

E. Documentation

The Defendant shall describe in detail in the CQA plan the reporting requirements for CQA activities. This shall include such items as daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports and final documentation. Provisions for the final storage of all records shall be presented in the CQA plan.

TASK XV: Other Reports and Submissions

The Defendant shall prepare plans, specifications and reports as set forth in Tasks XII through Task XIV to document the design, construction, operation, maintenance and monitoring of the Corrective Measure. Other documentation shall include, but not be limited to the following:

A. Progress

The Defendant shall at a minimum provide the U.S. EPA with signed monthly progress reports during the design and construction phases and semi-annual progress reports for operation and maintenance activities containing:

1. A description and estimate of the percentage of the CMI completed;

2. Summaries of all findings;

3. Summaries of all changes made in the CMI during the reporting period;

4. Summaries of all contacts with representatives of the local community, public interest groups or State government during the reporting period;

5. Summaries of all problems or potential problems encountered during the reporting period;

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

B. Draft Submittals

1. The Defendant shall submit draft CMI work plans as outlined in Task XII;

2. The Defendant shall submit draft Construction Plans and Specifications, Design Reports, Cost Estimates, Schedules, Operation and Maintenance Plans and study Reports as outlined in Task XII;

3. The Defendant shall submit a draft Construction Quality Assurance Program Plan and Documentation as outlined in Task XIV; and

4. At the completion of the project, the Defendant shall submit a draft Corrective Measure Implementation Report to the Agency. The report shall document that the project is consistent with the design

specifications, and that the corrective measure is performing adequately. The Report shall include, but not be limited to the following elements:

a. Synopsis of the corrective measure and certification of the design and construction;

b. Explanation of any modifications to the plans and why these were necessary for the project;

c. Listing of the criteria, established before the remedial action was initiated, for judging the functioning of the remedial action and also providing explanation of any modification to these criteria;

d. Results of facility monitoring, indicating that the remedial action will meet or exceed the performance criteria;

e. Explanation of the operation and maintenance (including monitoring) to be undertaken at the facility; and

f. Data demonstrating that the Cleanup Standards have been achieved.

C. Final Submittals

The Defendant shall finalize the Corrective Measure Implementation Program Plans, Design Reports, Construction Plans and Specifications, Cost Estimates. Project Schedule, Operation and Maintenance Plan, Study Reports, Construction Quality Assurance Program Plan/Documentation and the Corrective Measure Implementation Report incorporating comments received on draft submissions.

Submission Schedule

The Defendant shall comply with the information reporting requirements presented below.

FACILITY SUBMISSION	DATE DUE
Draft Program Plans (Task XII)	60 days after U.S. EPA final selection of Corrective Measures for facility
Final Program Plan (Task XII)	30 days after receipt of U.S. EPA comments on draft Program Plan
Design Phases (Task XIIIG)	
- Preliminary Design (30% completion)	- 45 days after U.S. EPA approval of final Program Plans
- Intermediate Design (60% completion)	- 90 days after U.S. EPA approval of final Program Plans
- Prefinal Design (95% completion)	- 135 days after U.S. EPA approval of the final Program Plans
- Final Design (100% completion)	- 35 days after U.S. EPA approval of the Prefinal Design
(Tasks XIIIA through F)	
-Draft Submittals	120 days after U.S. EPA final selection of corrective measures for facility
-Final Submittals	Concurrent with submittal of Final Design (100% Design Completion)
Draft Construction Quality Assurance Plan (Task XIV)	Concurrent with submittal of Prefinal Design (95%) Completion
Final Construction Quality Assurance Plan (Task XIV)	30 days after (a) U.S. EPA comment on Draft Construction Quality Assurance Plan or (b) U.S. EPA approval of Prefinal Design, whichever is later.
Construction of Corrective Measures	As approved in Final Design
Prefinal Inspection Report (Task XIV)	30 days after Prefinal Inspection
Draft CMI Report (Task V)	45 days after completion of the construction phase
Final CMI Report (Task V)	21 days after receipt of U.S. EPA comments on draft CMI Report
Progress Reports for Tasks XII through V	Monthly
Reports during Operation and Maintenance	Semi-annual

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

UNITED STATES OF AMERICA, Plaintiff, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, Intervening Plaintiff, v. REFINED METALS CORPORATION, Defendant.	CIVIL ACTION NO. IP902077C HONORABLE JUDGE SARAH E. BARKER

CONSENT DECREE

EXHIBIT E: **January 10, 1995, Agreed Order in Commissioner of the Department of Environmental Management v. Refined Metals Corporation, Cause Number A-2521.**

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

STATE OF INDIANA)
) SS:
COUNTY OF MARION)

BEFORE THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT,

Complainant,

v.

REFINED METALS CORPORATION

Respondent.

CAUSE NO. A-2521

AGREED ORDER

The Commissioner and the Respondent hereby consent to the entry of the following Findings of Fact and Order. Pursuant to IC 13-7-11-2(b), entry into the terms of this Agreed Order does not constitute an admission of any violation contained herein.

I. FINDINGS OF FACT

Upon the consent of the parties hereto, the following findings are made by the Complainant:

1. Complainant is the Commissioner (hereinafter referred to as "Complainant") of the Indiana Department of Environmental Management (hereinafter referred to as "IDEM"), a department of the State of Indiana created by IC 13-7-2-11.

2. Refined Metals Corporation, (hereinafter referred to as "Respondent"), owns and operates a secondary lead smelter, located in Beech Grove, Indiana.

3. Complainant has jurisdiction over the Respondent and the subject matter of this action.

4. On March 17, 1994, Office of Air Management staff conducted an inspection of Respondent's operations. Inspection of Respondent's records showed that negative pressure had not been maintained continuously in the buildings housing the blast furnace, dust furnace, refining kettles, casting operation, and lead storage as required by Section 1 (1) of the emergency rule (a noncode provision concerning source specific provisions for Refined Metals Company)

approved by the Indiana Air Pollution Control Board on January 5, 1994 and effective for the period from January 6, 1994 through April 5, 1994. Failure to maintain continuous negative pressure in the aforementioned buildings constitutes an alleged violation of the aforementioned emergency rule.

5. Complainant's and Respondent's representatives met on April 15 to discuss concerns raised by the above noted alleged violation, as well as evidence indicating that the National Ambient Air Quality Standard for Lead was exceeded at the Indianapolis Air Pollution Control Section's monitoring site (site 28) located at 3700 South Arlington for the period of January through March 1994. The Respondent's and Complainant's representatives discussed a number of possible remedies regarding upgrades and improvements at Respondent's operation designed to address those concerns.

6. A Preliminary Agreed Order that did not resolve all issues in this matter, but did require the Respondent to take substantive actions, was executed on May 20, 1994.

7. Review of negative pressure monitoring records indicates that Respondent did not continuously maintain negative pressure in the buildings housing the refinery kettles, casting operation, blast furnace, dust furnace, and lead storage during the period February 11, 1994 through May 26, 1994 inclusive, and July 22, 1994 through July 26, 1994 inclusive, and on July 29, 1994. That negative pressure for those above-described locations be maintained is required by 326 IAC 15-1-2 (a)(1)(D), and Section 1 (1) of the emergency rule (a noncode provision concerning source specific provisions for Refined Metals Corporation approved by the Indiana Air Pollution Control Board on January 5, 1994. Failure to maintain negative pressure in the above-described locations for the aforementioned periods constitutes a total of 110 days of violation of the above-cited regulations.

8. Review of continuous opacity monitoring reports indicates that the continuous opacity monitor on baghouse M-1 failed to operate, or provided invalid data for significant periods of the fourth quarter of 1993, and the first, second, and third quarters of 1994 while the facility was in operation. The failure to operate the continuous opacity monitor and provide valid data continuously from the opacity monitor on baghouse M-1 while the facility is in operation constitutes a violation of 326 IAC 3-1.1, 326 IAC 15-1-2 (a)(1)(G), and 326 IAC 15-1-2 (a)(1)(I).

9. The Respondent conducted emissions sampling for particulate matter, sulfur dioxide, and lead on September 13 through September 15, 1994.

10. Emissions sampling conducted on September 15, 1994 demonstrated sulfur dioxide emissions of 74.47 pounds per hour from Respondent's blast furnace. Sulfur dioxide emissions from Respondent's blast furnace in excess of 64.8 pounds per hour constitute a violation of 326 IAC 7-4-2.

11. Review of continuous emissions monitoring reports for sulfur dioxide from Respondent's blast furnace, show emissions in excess of 64.8 pounds per hour, during the period from September 16 through September 30, 1994.

Sulfur dioxide emissions from Respondent's blast furnace in excess of 64.8 pounds per hour constitute violations of 326 IAC 7-4-2.

12. Agreed Order, Cause No. A-1031 was executed September 25, 1991. Pursuant to that Agreed Order, a stipulated penalty of $18,400 was assessed and paid for failure to submit reports for the first quarter of 1992.

13. Respondent failed to install a continuous emissions monitor for sulfur dioxide which complied with the requirements of 326 IAC 3-1 until July 1994. Order condition No. 4 of Agreed Order, Cause No. A-1031 (issued September 25, 1991), required Respondent to install such a continuous monitor within 120 days of the Effective Date of that Agreed Order. Failure to install such a monitor until July 1994 constitutes a violation of Order condition No. 4 of the aforementioned Agreed Order.

14. Respondent failed to submit the required continuous opacity monitor report for the fourth quarter of 1993 until April 4, 1994, sixty-three days later than required by 326 IAC 3-1.1. Order condition No. 14 (a) of Agreed Order, Cause No. A-1031 provides for stipulated penalties of $200 per day for failure to submit any report or notification as required by that Agreed Order. Therefore, a stipulated penalty of Twelve Thousand Six Hundred Dollars ($12,600) has accrued.

15. Respondent failed to seal its material storage building such that there are no visible openings until after August 1, 1994. Order condition No. 2 of Preliminary Agreed Order, Cause No. A-2521 required the material storage building to be so sealed no later than July 20, 1994. Order condition No. 10 of the aforementioned Preliminary Agreed Order provides a stipulated penalty of One Thousand Dollars ($1,000) per day for failure to comply with the requirements of Order condition No. 2. Respondent failed to comply with Order condition No. 2 for at least the twelve (12) day period from July 21 to August 1, 1994 inclusive.

16. Inspections on July 22, August 1, and August 18, 1994, by Office of Air Management staff found lead containing material deposited or tracked out of Respondent's buildings that was not actively being cleaned up, and as such was not being cleaned up immediately. Failure to clean up such material immediately was a failure to comply with the requirements of Order condition No. 6 of Preliminary Agreed Order, Cause No. A-2521. Order condition No. 10 of the aforementioned Preliminary Agreed Order provides a stipulated penalty of One Thousand Dollars ($1,000) per day for failure to comply with the requirements of Order condition No. 6. Respondent failed to comply with the requirements of Order condition No. 6 on the dates specified above.

17. An inspection on August 18, 1994, by Office of Air Management staff found that no records of sweeper operation were maintained for the period July 25, 1994 through August 18, 1994, inclusive. Order condition No. 6 of Preliminary Agreed Order, Cause No. A-2521 makes Respondent's May 4, 1994 revision of its fugitive dust control program a part of the Preliminary Agreed Order, and requires compliance with the requirements of the fugitive dust control program. The Respondent failed to comply with the requirements

of the fugitive dust control program by failing to maintain records of sweeper operation for the period cited above. Order condition No. 10 of the aforementioned Preliminary Agreed Order provides a stipulated penalty of One Thousand Dollars ($1,000) per day for failure to comply with the requirements of Order condition No. 6. Respondent failed to comply with the requirements of order condition No. 6 for the period specified above.

18. The Respondent has submitted and implemented an IDEM approved plan regarding thorough cleaning of all vehicle wheels of vehicles exiting the material storage building, as required by the aforementioned Preliminary Agreed Order.

19. Pursuant to IC 13-7-11-2(b), IDEM issued a Notice of Violation via Certified Mail to:

Mr. Michael Meloy
Plant Manager and Registered Agent
Refined Metals Corporation
P. O. Box 188
Beech Grove, Indiana 46107

Mr. T. W. Freudiger
Vice President
Refined Metals Corporation
257 West Mallory Avenue
P. O. Box 9009
Memphis, Tennessee 38109

20. This Agreed Order shall fully resolve the liability of Respondent through the Effective Date of this Agreed Order for all violations of the regulations and for all violations of terms of prior Agreed Order Cause No. A-1031 (September 25, 1991) and Preliminary Agreed Order Cause No. A-2521 (May 20, 1994) cited in this Agreed Order and in the Notice of Violation (Cause No. A-2521) issued December 6, 1994.

21. In agreeing to the issuance of and entering into this Order, the Respondent does not admit liability with respect to the alleged violations.

22. Respondent waives any right to administrative and judicial review of this Agreed Order and agrees not to contest the jurisdiction of Complainant to enter into this Order. However, in the event a dispute arises regarding an action taken by the Department under this Agreed Order, both parties retain their rights under the Indiana Administrative Orders and Procedures Act IC 4-21.5 concerning review of such action, but this Agreed Order itself will not be subject to review.

II. ORDER

WHEREFORE, based upon the Findings of Fact and upon the consent of the parties, it is hereby ORDERED that:

1. The Respondent has installed spark arresters or the equivalent on baghouses M-1 and M-2. The Respondent shall install a spark arrester or the equivalent on baghouse M-3 within thirty (30) days following the effective date of this Agreed Order.

2. The Respondent shall make permanent the sealing of the material storage building required by Preliminary Agreed Order, Cause No. A-2521 executed on May 20, 1994, Order Paragraph No. 2. A permanent seal means sealing any holes, or replacing walls with sheet metal, a sheet metal and insulation combination, or concrete so that the building can be maintained under negative pressure . The Respondent shall complete this project no later than within thirty (30) days following the effective date of this Order.

3. The Respondent shall permanently seal the furnace building in the same fashion as that required for the material storage building in Paragraph 2 above. The Respondent shall complete this project within ninety (90) days following the effective date of this Order.

4. The buildings housing the blast furnace, dust furnace, and materials storage shall be kept under continuous negative pressure, at all times during plant operation and when materials are being handled, by constant flow rate fans ducted to air pollution control devices. The Respondent shall maintain continuous negative pressure for a minimum of fifteen (15) minutes after the cessation of plant operation or material handling.

5. This Order shall be valid and enforceable the date this Order is executed by the Complainant or her delegatee. However, all time periods shall run from the date Respondent receives this executed Order (hereinafter called "Effective Date"). This Agreed Order shall remain in effect for a period of four years after the Effective Date.

6. The Respondent shall install, operate, and maintain a continuous monitoring system to measure and record pressure differential to demonstrate compliance with order condition No. 4. The measuring equipment shall be located on the north wall of the materials storage building. It shall consists of a differential pressure sensor/transmitter, a processor, and a recording device. This system shall produce valid data ninety-five percent (95%) of the time when required to operate under Order condition No. 4. The devices shall measure and record both negative and positive pressures. Data generated by this monitoring system shall be kept available for inspection at the site for a period of two (2) years.

7. There shall be no visible emissions from building openings housing the blast furnace, dust furnace, and material storage including doors and windows as determined in accordance with 40 CFR 60, Appendix A, Method 22.

8. Concrete and paved areas shall be cleaned at least daily, except on days the concrete and paved areas remain wet throughout the working hours, so that vehicle traffic will not entrain visible dusts as determined in accordance with 40 CFR 60, Appendix A, Method 22. Vehicle exhaust shall be exempt for purposes of determining compliance with this requirement.

9. The Respondent shall install and operate continuous opacity monitors on the exhaust stacks, or in the ductwork leading to those exhaust stacks, for baghouses M-2, and M-3, in accordance with the requirements of 326 IAC 3-1.1. The Respondent shall install indicator lights alerting operators whenever

opacity from any continuous opacity monitor, whether located on M-1, M-2, M-3, or M-4, exceeds five percent (5%) opacity. The indicator lights must indicate at which exhaust the excess opacity is occurring. The Respondent shall complete this project within 160 days of the effective date of this Agreed Order.

10. Upon notification in writing by the Indianapolis Air Pollution Control Section (IAPCS) or IDEM that: 1) the ambient air quality monitors located adjacent to or near the Respondent's plant have recorded lead concentrations that have or clearly will, when averaged over the quarter, result in an exceedance of the National Ambient Air Quality Standard (NAAQS) for lead of 1.5 ug/m3, and 2) the IAPCS or IDEM believes such exceedance was or will be caused in whole or in part by emissions from Respondent's facility (in all events where disputed Respondent shall have the burden of showing that it is not the cause in whole or in part of such exceedances of the NAAQS for lead), the Respondent shall immediately take the following steps:

    a. Cease operations within forty-eight hours of receipt of notification until the measures identified in subparagraph b have been implemented and a corrective action plan to correct the conditions causing the excessive emissions has been approved by IDEM and the IAPCS.

    b. The Respondent shall, if it elects to renew operations, undertake an investigation of the cause of the excessive lead concentrations and, submit a report of that investigation and its results to IDEM and IAPCS. At a minimum, the investigation shall include the following:

        1. A description of whether and how the plant is in compliance with the provisions of its operating permit, 326 IAC 15-1, the Preliminary Agreed Order Cause No. 2521 issued May 20, 1994, the Agreed Order Cause No. 1031 issued September 25, 1991, its fugitive dust control plan, and this Agreed Order, as those provisions and requirements relate to lead emissions.

        2. Investigation of all possible causes of excess emissions relating to lead, including but not limited to stack emissions, process and road fugitive emissions, unforeseen events or malfunctions of equipment and housekeeping and maintenance procedures. Housekeeping and maintenance investigations must include a "black light" check of the baghouses, an evaluation of the condition of the dust handling system performed by Respondent's consultant, and a leak inspection of all buildings which house lead-bearing materials. In investigating stack emissions Respondent shall review applicable monitoring data. Stack testing is not required as a part of this investigation, but if stack testing is performed it must comply with 326 IAC 3-2.1, and be approved by IDEM and the IAPCS. The IDEM reserves the right to require stack testing for purposes other than this report.

3. A proposed corrective action plan that includes specific measures and a schedule for expeditious implementation of those measures to eliminate the causes of the excess lead emissions.

4. A proposed date for recommencement of operations at the plant.

5. All continuous emissions monitor and continuous opacity monitor data for the ninety (90) day calendar quarter in which the ambient violation cited in the notification occurred.

6. Measurement data from the pressure differential device located within the material storage building for the ninety (90) day calendar quarter in which the ambient violation cited in the notification occurred.

7. Records of sweeping, spills, and spill control activities for the ninety (90) day calendar quarter in which the ambient violation cited in the notification occurred.

8. Records of the type and amount of material charged to the blast furnace for the ninety (90) day calendar quarter in which the ambient violation cited in the notification occurred.

9. Records of maintenance and inspection of all dust collection devices and fugitive dust emissions points for the ninety (90) day calendar quarter in which the ambient violation cited in the notification occurred.

10. A report certified by a responsible corporate official that the entire paved area and all building exteriors at Respondent's plant have been cleaned of visible dust deposits by power washing or sweeping since the receipt of the notification from the IDEM or IAPCS.

c. Within seven (7) days of receipt of the investigation report and proposed plan, IDEM and IAPCS shall concurrently either a) approve the report and proposed plan, b) disapprove the report and proposed plan and indicate to the Respondent which provisions are inadequate, or c) request additional information.

d. Upon approval by IAPCS and IDEM of the information required in order condition No. 10 (b)., operations may recommence at the plant on the date proposed by Respondent, if IDEM and IAPCS find that sufficient measures will be implemented by that date to reasonably assure that exceedances of the NAAQS for lead caused in whole or in part by Respondent will not occur or recur, or such other date the IDEM and IAPCS may identify. Neither IDEM nor IAPCS shall unreasonably withhold approval of the aforementioned required report and proposed plan, require unreasonable corrective action measures be undertaken by the Respondent, nor impose unreasonable time

schedules. The Respondent shall expeditiously implement the measures included in its corrective action plan in accordance with the schedule approved by IDEM and IAPCS.

e. If the Respondent undertakes and completes an investigation of excessive lead concentrations and submits a report containing the information required in Paragraph 10 (b) above and a proposed corrective action plan prior to receiving written notification described above, IDEM and IAPCS may approve the report and the proposed corrective action plan instead of issuing the notification of the lead NAAQS violation. Neither IDEM nor IAPCS shall unreasonably withhold approval of the aforementioned required report and proposed plan, require unreasonable corrective action measures be undertaken by the Respondent, nor impose unreasonable time schedules. The Respondent shall expeditiously implement the measures included in its corrective action plan in accordance with the schedule approved by IDEM and IAPCS.

f. In the event Respondent fails to timely implement the measures included in its approved corrective action plan, it shall cease operations until such requirements are fully implemented, unless the IDEM and IAPCS agree in writing to allow Respondent to continue to operate.

g. It is the understanding of the parties that the IAPCS will provide Respondent with the lead ambient air quality monitoring data within three business days of IAPCS' receipt of said data.

11. Upon notification in writing by IDEM or IAPCS that 1) the ambient air quality monitors located adjacent to or near Respondent's plant have recorded lead concentrations which equal or exceed 1.5 ug/m3 for a single day, and 2) the IAPCS or IDEM believe such lead concentrations were caused in whole or in part by emissions from Respondent's facility (in all events where disputed Respondent shall have the burden of showing that it is not the cause in whole or in part of such lead concentrations) Respondent shall do the following:

a. Prepare the following report and submit it to IDEM and IAPCS within five working days:

1. Continuous emissions monitor and continuous opacity monitor data for the stacks so equipped for the specified day and measurement data for the seven day period immediately preceding it.

2. Measurement data from the pressure differential device located within the material storage building for the specified day, and such data for the seven day period immediately preceding it.

3. Records of sweeping, spills, and spill control activities for the specified day, and for the seven day period immediately preceding it.

4. Records of the type and amount of material charged to the blast furnace on the specified day, and for the seven day period immediately preceding it.

5. Records of maintenance and inspection of all dust collection devices and fugitive dust emission points for the specified day, and for the seven day period immediately preceding it.

b. The Respondent shall undertake an investigation of the cause for any ambient air lead concentration equal to or in excess of 1.5 ug/m3, and within fourteen (14) days of initial notification by IDEM or IAPCS, submit a report of that investigation and its results to IDEM and IAPCS. At a minimum, the investigation shall include the following:

1. A description of whether and how the plant is in compliance with its operating permit, 326 IAC 15-1, the Preliminary Agreed Order Cause No. 2521 issued May 20, 1994, the Agreed Order Cause No. 1031 issued September 25, 1991, its fugitive dust control plan, and this Agreed Order as those provisions and requirements relate to lead emissions.

2. An investigation focused upon preventive maintenance to tighten controls on all possible causes of excess emissions , process and road fugitive emissions, unforeseen events or malfunctions of equipment and housekeeping and maintenance procedures.

3. A proposed corrective action plan for addressing the cause(s) for any ambient air lead concentrations equal to or in excess of 1.5 ug/m3.

12. The Respondent shall comply with all requirements of the most current fugitive dust control program as approved by IDEM.

13. The Respondent shall maintain the battery breaker building to prevent tracking of dust to the outside of the building.

14. The Respondent shall keep all doors closed (except for the occasional passage of people or equipment) on the following buildings:

Lower portions of baghouses
Battery breaker building (except northeast door for semi trailer, and west door when the ambient temperature is above 60 degrees Fahrenheit). Respondent shall investigate the feasibility of controlling acid gas emissions from the battery breaker building and providing other means of ventilation than opening of the west door of the battery breaker building and provide a report including an implementation schedule for feasible options found in the investigation to IDEM and IAPCS within 120 days of the Effective Date of this Order. Respondent shall implement the actions proposed pursuant to a schedule approved by IDEM and IAPCS.

15. The Complainant agrees to waive payment of the stipulated penalties cited in Paragraph Nos. 14, 15, 16, and 17 of the foregoing Findings of Fact, based upon evidence submitted by Respondent which adequately demonstrated its inability to pay these stipulated penalties in the amount commensurate with the alleged violations.

16. The Respondent is assessed a civil penalty of Two Hundred Seventy Thousand Dollars ($270,000). The Respondent shall pay a portion of the civil penalty in the amount of One Hundred Thousand Dollars ($100,000), in accordance with the following schedule:

$10,000 paid within 90 days of the Effective Date of this Order,
$10,000 paid within 180 days of the Effective Date of this Order,
$10,000 paid within one year of the Effective Date of this Order,
$17,500 paid within 18 months of the Effective Date of this Order,
$17,500 paid within two years of the Effective Date of this Order,
$17,500 paid within 30 months of the Effective Date of this Order, and
$17,500 paid within three years of the Effective Date of this Order.

The payments shall be submitted to the Environmental Management Special Fund as directed by Paragraph 24. The Respondent will pay an identical amount to the City of Indianapolis. In lieu of payment of the remaining Civil Penalty, the Respondent shall perform and complete the Supplemental Environmental Projects described in Paragraph 17 and 19. The total funds expended on the SEPs shall be a minimum of Five Hundred Thousand Dollars ($500,000). Upon the completion of the Projects, Respondent shall submit written notice and documentation which substantiates all actions taken and costs incurred, including but not limited to, all costs documentation, periodic progress reports, and final reports. Within ninety (90) days of the completion of the Projects, IDEM shall inspect the Projects, and all documentation. If the installation of the afterburner is not completed in accordance with this agreement and within the specified time period, subject to any extension for cause due to force majeure, the Respondent agrees to pay a portion of the remaining amount of the Civil Penalty due, One Hundred Twenty-five Thousand ($125,000), plus interest at the rate established by IC 24-4.6-1-101, to the Environmental Management Special Fund. If the installation of the wet scrubber is not completed in accordance with this agreement and within the specified time period, subject to any extension for cause due to force majeure, the Respondent agrees to pay the remaining amount of the Civil Penalty, Forty-five Thousand Dollars ($45,000), plus interest at the rate established by IC 24-4.6-1-101, to the Environmental Management Special Fund. Payment of the remaining portions of the Civil Penalty shall be submitted within 15 days from receipt of a notice to pay from the IDEM. Interest on the remaining Civil penalty shall be paid from the effective date of this Agreed Order.

17. As a Supplemental Environmental Project, the Respondent shall install and operate an afterburner having a combustion chamber operating temperature of 1400 degrees Fahrenheit for the combustion of carbon compounds. The afterburner is to be installed between the blast furnace and the cooling towers.

The afterburner shall be installed and operating within One Hundred Eighty (180) days of the Effective date of this Agreed Order. The Respondent shall demonstrate through continuous measuring and recording devices that the combustion chamber operating temperature is maintained at no less than 1400 degrees Fahrenheit averaged over a period of three consecutive hours when the blast furnace is operational. The Respondent shall perform emissions sampling in accordance with 326 IAC 3-2.1 within six months of the installation of the afterburner that demonstrates the control efficiency of the afterburner with respect to carbon compounds. If stack testing performed in accordance with 326 IAC 3-2.1 demonstrates a minimum control efficiency of 99% in removing carbon compounds at a lower average operating temperature, the operating temperature requirement of this paragraph will be revised to reflect a new lower operating temperature requirement equivalent to the temperature at which the afterburner was operated when 99% control efficiency was demonstrated. Regardless of the temperature required, compliance must be demonstrated through continuous measuring and recording devices and averaging the temperature over a period of three consecutive hours when the blast furnace is operational.

18. The Respondent shall perform emissions sampling for lead, particulate matter, and sulfur dioxide on M-1, and lead and particulate matter on M-2, M-3, and M-4 at least once annually in 1995, 1996, and 1997, with the emissions sampling to be performed in the first or second calendar quarter of each year. Such emissions sampling shall be done in accordance with 326 IAC 3-2.1.

19. The Respondent shall comply with the sulfur dioxide limits for its blast furnace as required in 326 IAC 7-4-2(20). The Respondent shall install a wet scrubber to control sulfur dioxide emissions from its blast furnace within one year of the Effective Date of this Agreed Order. Installation and operation of this wet scrubber shall be treated as a Supplemental Environmental Project, in lieu of payment of Forty-five Thousand Dollars ($45,000) of the $270,000 civil penalty. Stipulated penalties of One Hundred Fifty Dollars ($150) per day for sulfur dioxide emissions violations shall accrue during this one year period. Stipulated penalties shall be due and payable within thirty (30) days after Respondent receives written notice than the Complainant has determined that a stipulated penalty is due. The Complainant shall not give notice that such a stipulated penalty is due until at least 180 days after the Effective Date of this Agreed Order. If Respondent seeks a variance regarding its sulfur dioxide limit within 180 days of the Effective Date of this Agreed Order, the Complainant shall not give notice that a stipulated penalty is due until after IDEM has taken action on Respondent's request for a variance. If Respondent's variance request is granted, Complainant agrees to waive any stipulated penalties for sulfur dioxide emissions that accrue during that one year period for installation of the wet scrubber, plus any extensions granted due to force majeure, provided the penalties accrued due to emissions violations that have been less than or equal to any allowable emissions limit granted by the variance. The IDEM acknowledges Respondent's right to request a variance of the sulfur dioxide emission limitation applicable to the blast furnace, and obtain a variance provided that Respondent's petition for such variance is complete and accurate, demonstrates Respondent's grounds for the variance as required by IC 13-7-7-6 and is supported by valid

scientific evidence demonstrating that the variance, if granted, will not allow Respondent to cause exceedences of the National Ambient Air Quality Standard for sulfur dioxide.

20. In the event the following terms and conditions are violated, the Complainant may assess and the Respondent shall pay a stipulated penalty in the following amounts:

Violation	Penalty
Failure to comply with the deadline set forth in Order Paragraph Nos. 1, 2, 3, 9, 11, 14, 18, or 19.	One Thousand Dollars ($1,000) per day of violation
Failure to maintain buildings under negative pressure as required by Paragraph No. 4	Two Thousand Five Hundred Dollars ($2,500) per day of violation
Failure to comply with the no visible emissions requirement of Paragraph No. 7	Two Thousand Five Hundred Dollars ($2,500) per day of violation
Failure to comply with the requirement of Paragraph No. 8 that no visible dust be entrained by vehicle traffic	One Thousand Dollars ($1,000) per day of violation
Failure to comply with the shutdown provision of Paragraph No. 10	Twenty-five Thousand Dollars ($25,000) per day of violation
Failure to comply with the requirement of Respondent's fugitive dust control plan per Paragraph No. 13	One Thousand Dollars ($1,000) per day for each violation

21. Unless IDEM otherwise notifies Respondent in writing, all submittals required by this Preliminary Agreed Order shall be sent to:

Air Section Chief
Office of Enforcement
Indiana Department of
Environmental Management
P.O. Box 6015
Indianapolis, Indiana 46206-6015

22. If the Respondent elects to voluntarily cease operations except for scheduled maintenance, holidays, and emergencies it shall take all of the actions set forth above before operations are resumed including installation of all control equipment, the afterburner and wet scrubber proposed as SEPs, and monitoring equipment if the deadlines for installation of that equipment has

elapsed. Cessation of operations shall not relieve Respondent from the obligation to pay when due the $100,000 portion of the civil penalty according to the payment schedule established in Order Paragraph 16, and any stipulated penalties that have accrued. If Respondent voluntarily ceases operation except for scheduled maintenance, holidays, and emergencies prior to the expiration of the deadline or any extension granted due to force majeure for installation of the afterburner or wet scrubber, Respondent shall not be obligated to pay the $125,000 or $45,000 portion of the civil penalty associated with the afterburner or wet scrubber, unless Respondent fails to install the afterburner or wet scrubber by the respective deadlines as extended for any approved force majeure event, or prior to recommencing operation.

23. In lieu of assessment of the stipulated penalty given above, the Complainant may seek any other remedies or sanctions available by virtue of Respondent's violation of this Agreed Order, including, but not limited to, civil penalties pursuant to IC 13-7-13.

24. Civil and stipulated penalties are payable by check to the Environmental Management Special Fund. Checks shall include the Cause Number and shall be mailed to:

Cashier
IDEM
100 North Senate
P.O. Box 7060
Indianapolis, Indiana 46206-7060

25. "Force Majeure," for purposes of this Agreed Order, is defined as any event arising from causes beyond the control of the Respondent, including unreasonable delays by IDEM and the IAPCS, that delays or prevents the performance of any obligation under this Agreed Order despite Respondent's best efforts to fulfill the obligation. The requirement that the Respondent exercise "best efforts to fulfill the obligations" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the work required by this Agreed Order or increases in costs to perform the work.

The Respondent shall notify IDEM by calling within three (3) calendar days and by writing no later than seven (7) calendar days after any event which the Respondent contends is a force majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the Respondent to minimize the delay, and the timetable by which these measures will be implemented. The Respondent shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure for that event. The Respondent shall have the burden of demonstrating that the event is a force majeure. The decision of whether

an event is a force majeure shall be made by IDEM. Said decision shall be communicated to the Respondent within ten (10) calendar days of receipt of Respondent's written notification.

If a delay is attributable to a force majeure, IDEM shall extend, in writing, the time period for performance under this agreed Order, by the amount of time that is attributable to the event constituting the force majeure.

26. In the event that the stipulated penalties assessed pursuant to order paragraphs 19 and 20 are not made within thirty (30) days of Respondent's receipt of IDEM's demand, Respondent shall pay interest on the unpaid balance at the rate established by IC 24-4.6-1-101. The interest shall begin to accrue on the date the civil penalty or stipulated penalty is due until the full civil penalty is paid.

27. This Order shall apply to and be binding upon the Respondent, its successors, subsidiaries, and assigns. The signatories to this Order certify that they are fully authorized to execute and legally bind the parties they represent. No change in ownership, corporate, or partnership status of the Respondent shall in any way alter its status or responsibilities under this Order.

28. The Respondent shall provide a copy of this Order, if in force, to any subsequent owners or successors before ownership rights are transferred.

29. Respondent shall comply with all applicable laws and all rules regarding lead emissions of any board created by Title 13 of the Indiana Code.

Agreed Order
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TECHNICAL RECOMMENDATION:
Department of Environmental Management

By: [signature]
Air Section Chief
Office of Enforcement

Date: 1-10-95

RESPONDENT

By: [signature]

Printed: T.W. Freudiger

Title: Executive Vice President

Date: 1/10/95

COUNSEL FOR COMPLAINANT
Department of Environmental Management

By: Beth J. Kirk
Office of Legal Counsel

Date: 1-10-95

COUNSEL FOR RESPONDENT
Andrews & Kurth L.L.P.

By: [signature]

Date: 1/10/95

APPROVED AND ADOPTED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

THIS 10TH DAY OF JAN, 1995.

Kathy Prosser
Commissioner